

October 15, 2008

Philip Giudice, Commissioner
Department of Energy Resources
100 Cambridge Street, Suite 1020
Boston, MA 02114

Re: Alternative Energy Portfolio Standard (APS) Regulations

Dear Commissioner Giudice:

Pace Energy and Climate Center (PECC), headquartered in White Plains, NY appreciates the opportunity to submit comments regarding implementation of the Green Communities Act (Act). PECC is a leader in the field of policy design supportive of CHP development. Pace has been selected on several occasions to create Guidebooks and materials for conveying information on CHP to a broad audience of project developers, end-users and other interested constituencies. PECC is presently involved in numerous technology transfer projects in the area of CHP on behalf of NYSERDA and NYSTAR.

We applaud the Massachusetts Department of Energy Resources (DOER) efforts in implementing the Green Communities Act and for recognizing the important role of combined heat and power (CHP) in addressing climate change.

Two-thirds of all the fuel used to make electricity in the U.S. is generally wasted by venting unused thermal energy into the air or discharging it into rivers. This waste heat can be used productively, such as to provide domestic hot water and/or heating for multi-family buildings, hospitals, nursing homes, or schools, or to provide heat for an industrial process, such as drying or sterilization. The waste heat can also be used to drive absorption chillers to provide heating and cooling to commercial or institutional buildings. By harnessing this waste heat, instead of dumping it into the atmosphere, the Commonwealth can achieve the huge gains in energy efficiency

Comparing the status quo of what we call “separately generated” heat and power – providing power remotely from an electric generating station and clean on-site CHP. In the “business as usual” case, we use 100 units of input energy and we get out just 50 units of useful heat and power. With CHP, the same 100 units of input energy can provide us with 70, 75 or even in some cases 80 units of useful energy. This is an energy efficiency gain of 40 percent, 50 percent or more and along with the gain in efficiency is a significant accompanying benefit in reduction of criteria pollutants and greenhouse gas emissions.

These comments address four of the five principal issues:

Question 1. How should the Annual APS percentage rate be determined, and what should that rate be?

The APS should strive to reach a goal of at least five percent by 2020. We believe it is achievable based upon the KEMA market potential of Combined Heat and Power in Massachusetts prepared for Massachusetts Technology Collaborative in March 2008 and other future opportunities in CHP development. The KEMA report indicates there is an incremental CHP potential of 680 MWs. Lauren Mathison has also done a report on CHP potential that can be found at <http://northeastchp.org/uploads/Lauren%20Mattison%20-%20Potential%20for%20CHP%20in%20Massachusetts.pdf>

In 2009, the five percent APS rate should be initially set at .41667%. Each year thereafter, increase the percentage by the same amount so that by 2020 the state will achieve five percent.

Question 2. What criteria should be required for any of the specified eligible technologies or fuels?

We suggest that the DOER regulations should define the term combined heat and power (CHP) in order to better clarify eligibility. The Green Communities Act (GCA) defines cogeneration but not CHP. PECC would define eligible CHP as those systems with a total annual system efficiency that is equal to greater than 60%. This is the figure that NYSERDA uses as a threshold level for receiving funding in the CHP Program Opportunity Notices. Likewise, it is the figure that the New York Public Service Commission has set for qualified systems eligible for the waiver of the Standby rate. The term should CHP should encompass all forms of re-use or recycling of waste heat – either for thermal energy needs at a site, or to produce electricity.

Recycled energy is a clean source of energy generation – capturing a waste product to generate heat or power – that does not require the burning of additional fossil fuels or the emissions of any additional pollution or greenhouse gases.

Question 3. What should the Alternative Compliance Payment (ACP) amount be for APS, and how should it be calculated?

The value of the ACP should be set at \$35.00/MWh, adjusted for inflation. This is based upon Connecticut's Tier III ACP of \$31.00/MWh. This figure is adjusted upwards due to the additional CHP incentives that are presently available in Connecticut.

Question 4. What criteria should be applied to emission performance standards and permanent CO2 sequestration standards as referenced in the Act?

This question is not addressed in our filing.

Question 5. What specific means of monitoring and verification will be necessary for compliance with the APS regulation?

Monitoring and verification will be necessary for compliance with the APS regulation, we suggest investigation of a two-tiered system that recognizes the additional cost burdens that certain forms of M&V might place on smaller-scale systems.

States like Pennsylvania and its Alternative Energy Portfolio Standard (Implementation of the Alternative Energy, Docket No. M-00051865) and Connecticut (pursuant to Public Act 05-01, Section 16(e) (4)) require monitoring and verification. PECC agrees that some form of monitoring and verification is essential. However, we are concerned that placing too much of a burden on smaller-scale CHP systems could result in dampening the market for these applications. We suggest that direct metering requirements should be reserved for larger projects, perhaps for systems greater than 250 kW. We suggest that other means of monitoring and verification be devised for the smaller-scale CHP systems.

Existing research suggests that the a significant proportion of the incremental CHP opportunities in Massachusetts are smaller in scale. Issues like interconnection costs, the specific means of equipment specification and site conditions have a larger proportional impact on small systems increasing the \$/kW and reducing payback on this class of facilities. Smaller facilities also tend to have lower capacity factors as they do not operate 24 hours a day making economics difficult because of uneven thermal utilization. <http://www.masstech.org/dg/2008-03-MA-CHP-Market-KEMA.pdf>

According to a report done by Lauren Mattison's Technical Analysis of the Potential for Combined Heat and Power in Massachusetts in 2006, the average system would be 246 kW, 4,751 MW is the total capacity, while 87% of the customers of the 4,751 MW use between 50 and 500 kW.

<http://northeastchp.org/uploads/Lauren%20Mattison%20-%20Potential%20for%20CHP%20in%20Massachusetts.pdf>

PECC respectfully requests the DOER incorporate these comments in adopting Alternative Energy Portfolio Standard Regulations. We would be happy to work with your staff to provide more detail and background for any of the information outlined herein.

Sincerely,

Thomas Bourgeois
Thomas Kelly
Pace Energy and Climate Center

